REMARKS

Claim 1 has been amended to recite "at least one exposed open fuse structure" and "an exposed metal structure." Support for the amendments is found in the as-filed specification at at least paragraphs [0011], [0019] through [0023], and [0031]. Claim 1 has also been amended to delete the term "first." Claim 7 has been amended to improve antecedent basis. No new matter has been added.

The Final Office Action mailed October 10, 2006, has been received and reviewed. Claims 1 through 8 are currently pending in the application. Claims 1 through 8 stand rejected. Applicant proposes to amend claims 1 and 7, and respectfully requests reconsideration of the application as proposed to be amended herein.

The amendments should be entered by the Examiner because they place the application in condition for allowance. Alternatively, the amendments place the application in better form for appeal.

Claim Objections

Claim 1 has been objected to because the phrase "post-circuit repaired" is alleged to provide no further limitation to the claim. Applicant has deleted this phrase from claim 1 and respectfully requests that the objection be withdrawn.

35 U.S.C. § 102(b) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 6,235,557 to Manley

Claims 1, 3 through 5, 7, and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,235,557 to Manley ("Manley"). Applicant respectfully traverses this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Manley discloses a method of forming a reproducible and reliable fuse. (Manley, Col. 3, lines 55-61). A fuse 420 is formed while bond pads are defined in an uppermost or final metal interconnect layer of a semiconductor device. (*Id.* Col. 6, lines 20-22). An oxide layer 430 is formed over the fuse 420 and a fifth metal layer 440 is deposited over the oxide layer 430. (*Id.* Col. 6, lines 2-4). Bond pads are formed from the fifth metal layer 440. (*Id.* Col. 6, lines 35-36). Oxide layer 450 is formed over the bond pads and a nitride layer 460 is formed over the oxide layer 450. (*Id.* Col. 6, lines 4-7). The nitride layer 460 and oxide layer 450 are etched to expose the bond pads. (*Id.* Col. 6, lines 48-49). The etch also removes the nitride layer 460 overlying the fuse 420 and portions of the oxide layer 450. (*Id.* Col. 6, lines 15-19; FIG. 2G). The resulting structure includes the fuse 420 covered by the oxide layer 430. (*Id.* Col. 6, lines 55-57 and Col. 7, lines 31-33; FIG. 2H). The structure is subjected to probe testing and circuit repair by opening the fuse 420. (*Id.* Col. 6, lines 58-63 and Col. 7, lines 24-26).

Claim 1 recites, in part, an "at least one exposed open fuse structure on the intermediate structure" and "a metal feature on an exposed metal structure of the intermediate structure, wherein a metal of the metal feature is present on the exposed metal structure and is not present on the at least one exposed open fuse structure."

Applicant respectfully submits that Manley does not anticipate claim 1 because Manley fails to disclose, either expressly or inherently, the above-mentioned elements of claim 1. Specifically, Manley does not expressly or inherently describe the element of "at least one exposed open fuse structure" because the fuse 420 is covered by oxide layer 430 (see Col. 6, lines 55-57 and FIG. 2H). As shown in FIGs. 2A-2G, the fuse 420 is not exposed during the process of forming the fuse 420. Furthermore, the fuse 420 and the fifth metal layer 440 are not both exposed during the process of forming the fuse 420.

Manley also does not expressly or inherently describe the element of "a metal feature on an exposed metal structure of the intermediate structure." The Examiner states that Manley discloses a "metal feature 440 . . . plated on a first metal structure." Office Action of October 10, 2006, p. 2. However, fifth metal layer 440 is formed on oxide layer 430. Since layer 430 is formed from an oxide, Manley does not disclose a metal feature on an exposed metal structure.

Furthermore, since Manley does not disclose an exposed open fuse structure and a metal

feature on an exposed metal structure, Manley necessarily does not disclose that a metal of the metal feature is present on the exposed metal structure and is not present on the exposed open fuse structure.

Since Manley does not expressly or inherently describe each and every element of claim 1, Manley does not anticipate claim 1. Accordingly, Applicant respectfully submits that claim 1 is allowable.

Claims 3 through 5, 7, and 8 are each allowable at least for depending from allowable claim 1.

Claim 5 is further allowable because Manley does not expressly or inherently describe that the metal feature comprises a nickel, palladium, gold, tin, silver, or copper feature. Rather, the section of Manley relied upon by the Examiner discloses that a fuse layer is formed from an aluminum alloy, a copper alloy, or other metal alloy.

Anticipation/Obviousness Rejection Based on Manley

Dependent claim 2 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Manley or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over Manley. Since claim 2 depends from claim 1, claim 2 includes all of the elements or limitations of claim 1. As such, claim 2 is allowable, *inter alia*, as depending from allowable claim 1. Therefore, the anticipation and obviousness rejections should be withdrawn.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on Manley, as applied to claim 1 above, in view of U.S. Patent No. 6,335,626 to Motulla

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Manley, as applied to claim 1 above, in view of U.S. Patent No. 6,335,626 to Motulla ("Motulla"). The Examiner relies on Motulla as teaching a "nickel material/feature." Office Action of October 10, 2006, p. 5. Claim 6 depends from claim 1 and, therefore, includes all of the limitations of claim 1. Since Motulla does not teach or suggest the limitations of "at least one exposed open fuse structure on the intermediate structure" and "a metal feature on an exposed metal structure of the

intermediate structure, wherein a metal of the metal feature is present on the exposed metal structure and is not present on the at least one exposed open fuse structure," claim 6 is allowable, *inter alia*, as depending from allowable claim 1. Therefore, the obviousness rejection should be withdrawn.

ENTRY OF AMENDMENTS

The proposed amendments to claims 1 and 7 should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add new matter to the application. Further, the amendments do not raise new issues or require a further search. Finally, if the Examiner determines that the amendments do not place the application in condition for allowance, entry is respectfully requested upon filing of a Notice of Appeal herein.

CONCLUSION

Claims 1 through 8 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,

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